CANADIAN APPLES

AND

CERTIFIED SEED POTATOES

DOMINION OF CANADA
DEPARTMENT OF AGRICULTURE
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FRUIT BRANCH
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FIG. 1.—Careful handling commences in the orchard. Note—(a) type of ladders, (b) picking bags, (c) orchard boxes—they all lend themselves to minimum bruising.

APPLE INDUSTRY IN CANADA

The fruit industry has become one of the chief industries in Canada and the apple is by far the most important fruit grown due no doubt to the fact that Canada produces the best flavoured, most highly coloured and longest keeping apples. The area in the Dominion over which the apple can be grown successfully, commercially, is very great, so great, that if it were all covered with apple trees in bearing, there would be more than enough apples to supply the markets of the world.

The Commercial apple crop is estimated on the basis of all fresh fruits moved to market and does not include apples used for the evaporators, canning or for the manufacture of cider and other by-products. The last five year average in barrels under this calculation is as follows: Nova Scotia, 1,122,769; New Brunswick, 29,120; Quebec, 128,746; Ontario, 637,880; British Columbia, 1,302,230.

Nova Scotia.—The apple has been grown in Nova Scotia longer than in any other province in Canada with perhaps the exception of Quebec. It has been grown commercially for the last fifty or sixty years and the industry has now reached extensive proportions. The largest crop to date was produced in 1929 when 1,737,876 barrels were packed and sold from the Annapolis Valley and adjacent valleys which make a district of about one hundred miles long and from six to eleven miles wide. Large quantities of the superior quality apples grown in this province are exported annually to the markets of Great Britain.

New Brunswick.—The climate of New Brunswick is admirably suited to the cultivating of the hardier apple and as some of the apples of the most attractive appearance and the best quality are among the hardier sorts this province is capable of producing a very large quantity of the finest fruit. At present practically the whole production of apples is consumed within the province.

Prince Edward Island.—The culture of apples has not developed as rapidly on Prince Edward Island as the climate and soil justify. The apple succeeds well in the province and owing to the comparatively cool summer and autumn causing slow ripening, the fruit keeps as long or longer than in any other part of the Dominion. Apple trees have been grown on Prince Edward Island since 1763 when the English first settled there.

Quebec.—There are records which show that as long ago as 1663 apples were being produced in the province of Quebec. The capabilities of this province for the production of apples of the finest appearance and best quality are very great. It is here that the fameuse apple is thought to have originated. In the Ottawa and St. Lawrence Valley, throughout the Eastern Townships and in other parts of the province there are many thousands of acres which will grow apples. Due to the large population in Quebec there are not at present sufficient apples grown within its boundaries to supply the local demand and large quantities are therefore imported each year.

Ontario.—This province is normally one of the largest producers of apples in the Dominion of Canada but the quantity now produced can be increased many times over without exhausting the land where the best apples can be grown successfully. The apples from Ontario are well and favourably known on the markets of Great Britain and Europe where large quantities are sold annually.

MANITOBA.—While apples in commercial quantities have not so far been produced in Manitoba more attention has been paid to its culture in this province than in either of the other Prairie Provinces. This is partly due to the fact that it has been longer settled and partly to the fact that the climate and soil in Southern Manitoba appear to be more suited for the cultivating of apples than other parts of the prairies. Experiments are now being made in an endeavour to develop varieties more suitable to the climate and, when this is obtained, there is no doubt that apples will be grown much more generally in Manitoba.

SASKATCHEWAN.—Small apples or crab apples can be successfully grown in many places in the province of Saskatchewan and some apples of the very hardy Russian varieties have been matured.

ALBERTA.—The climate of Alberta varies much more north to south, some parts being very dry with but little snow in winter, other parts having a great rainfall and snowfall. The best results so far have been obtained in Southern Alberta where at the Experimental Station at Lethbridge good apples have been produced.

BRITISH COLUMBIA.—Apple growing in British Columbia was only begun in comparatively recent years but the development of commercial orcharding has been very rapid, the greatest planting having occurred during the period from 1909 to 1914. The climate of British Columbia is varied within short distances, both wet and dry growing seasons being found. The most noted district is that of the Okanagan Valley where some of the finest orchards in the province and in the Dominion are to be found. The boxed apples from this province are found in season on all the important markets in Great Britain and Europe from which the demand created by high quality is rapidly increasing.

THE FRUIT ACT

The first Dominion of Canada Act—The Fruit Marks Act—making compulsory the grading of apples was passed in 1901. Since that time the Fruit Marks Act has been frequently amended to meet the growing needs of the industry and in 1923 the whole Act was repealed and The Fruit Act passed to take its place. The present Act provides for government inspection, penalties for dishonest packing and defines grades for fruit grown in Canada when packed in a closed package intended for sale as follows:—

GRADES FOR APPLES IN BARRELS

3. (1) The following shall be the grades for fruit grown in Canada when packed in a closed package intended for sale, except as is hereinafter by subsection two of this section provided with respect to apples, crabapples and pears:—

No. 1 Grade

(*a*) "No. 1" which shall include only well grown handpicked specimens of one variety, sound, of not less than medium size and of good colour for the variety, of normal shape and not less than ninety per cent free from scab, worm-holes, bruises and other defects, no culls and properly packed;

No. 2 Grade

(*b*) "No. 2" which shall include only handpicked specimens of not less than nearly medium size and some colour for the variety, sound and not less than eighty-five per cent free from scab, worm-holes, bruises, and other defects, no culls and properly packed;

Domestic Grade

(*c*) "Domestic" which shall include only handpicked specimens of not less than medium size for the variety, sound and not less than ninety per cent free from worm-holes (but may be slightly affected with scab and other minor defects), no culls, and properly packed;

No. 3 Grade

(*d*) "No. 3" which shall include only handpicked specimens, no culls, and shall be properly packed

(*a*) Basket apples shall be of a minimum size for No. 3 grade for each variety and no culls.

RECOMMENDED RULES FOR PACKING APPLES IN CONTAINERS OTHER THAN THE STANDARD BOX

Season 1930-31

In view of the unanimous support from the barrel apple producing districts of Ontario, Quebec, New Brunswick and Nova Scotia, also the United Kingdom and Canadian distributors, to a change in the system of packing barrel, basket or hamper apples, it is recommended that during the 1930-31 season all apples intended for export or for sale on the domestic market in containers other than the standard box should be packed in accordance with instructions as hereinafter defined.

(1) No. 1 and Domestic grades only may be packed, and No. 2 and No. 3 grades will be *discontinued.*

(2) Quality requirements of No. 1 and Domestic grades will remain unchanged and will be as defined in the grade definitions, Section 3, Fruit Act.

(3) Minimum colour requirement of No. 1 grade for the various varieties will be as set forth in the Fruit Branch circular No. 40, pages 46 to 48 of the Fruit Act.

(4) The minimum size for each variety to which No. 1 and Domestic grades may be packed shall be as defined in the attached Schedule "A".

(5) For No. 1 and Domestic grades a spread of one-quarter inch, i.e., 2″ to 2¼″ or 2¼″ to 2½″, is recommended, but for this season a spread of one-half inch, i.e., 2″ to 2½″ or 2¼″ to 2¾″, will be permitted. The latter should be confined as much as possible, however, to the Domestic grade. Both the minimum and maximum sizes shall be marked on the container.

(6) No. 1 and Domestic grades may be packed with a minimum diameter 2½″ without any restriction as to maximum size, and the package shall be marked "2½ inches up", in addition to the other marks required.

(7) It is possible export markets other than the United Kingdom will demand a "2¼ inches up" pack. Where this pack is necessary to fill definite demand, it will be permitted providing no lot shall contain more than 33 per cent between 2¼ inches and 2½ inches diameter inclusive.

(8) The United Kingdom markets prefer apples of one-quarter inch spread, and such requirements should be observed in packing. It is suggested that for most varieties the popular demand will be for 2¼″ to 2½″ and "2½ inches up" in both No. 1 and Domestic grades.

(9) The Scandinavian market mainly requires a $2\frac{1}{4}''$ to $2\frac{1}{2}''$ pack, there is a demand for $2\frac{1}{2}''$ to $2\frac{3}{4}''$ or $2\frac{1}{4}''$ to $2\frac{3}{4}''$ pack, but no demand for larger fruit. Occasionally this market will take a $2''$ to $2\frac{1}{4}''$ pack, but these should only be shipped on confirmed sale. A "$2\frac{1}{4}$ inches up" or a "$2\frac{1}{2}$ inches up" pack provides too wide a range in size and is not in demand.

(10) Markets demanding a small apple are limited, and it should be remembered that more satisfactory prices can be obtained providing such small fruit is very highly coloured and well above the minimum.

APPLES, CRABAPPLES, AND PEARS IN BOXES

(2) The following shall be the grades for apples, crabapples and pears grown in Canada when packed in boxes, intended for sale:—

Extra Fancy Grade

(*a*) "Extra Fancy" which shall include only firm, mature, clean, smooth, handpicked, well-formed fruit of one variety, of good colour for the variety, free from all insect pests, diseases, bruises, spray burns, limb rub, visible water core, skin punctures or skin broken at the stem, russeting, except that russeting at the basin of the stem shall be permitted, and properly packed.

Fancy Grade

(*b*) "Fancy" which shall include only firm, mature, clean, smooth, handpicked, well-formed fruit, of one variety, of fair colour for the variety and free from all insect pests, diseases, bruises, spray bruns, visible water core, skin punctures or skin broken at the stem, provided that limb rub not exceeding one-half inch in diameter, and leaf rub and russeting up to ten per cent of the surface shall be permitted, and properly packed.

BUY GRADED APPLES

The consumer of Canadian apples is entitled to apples packed under specific grades, and should make his purchases accordingly.

Carload purchases should be made on a basis of Government certificate as to grade and condition.

CANADIAN CERTIFIED SEED POTATOES

Contributed by the Division of Botany, Dominion Experimental Farm

The first essential to successful potato growing anywhere is the planting of first class seed: that is to say, seed which can reasonably be expected to give vigorous healthy plants and good crops. In order to give every potato grower the opportunity of readily obtaining this kind of seed, the Dominion Government of Canada under the direction of the Dominion Botanist is operating the present system of potato inspection and seed certification.

A brief outline of this system will show that every precaution is taken to certify only the very best of seed. The seed used in planting the crop for which certification is required must have been taken from stock which passed both field and tuber inspections the previous year; and must be planted at least 200 feet from other potatoes, to avoid possible insect or wind borne infection. At least two field inspections are made during the season, one about the time of blossoming, and the second some three or four weeks later. These field inspections are necessary to determine freedom from certain diseases such as Mosaic and Leaf Roll, which can be recognized only in the plant, and not in the tuber. At the first inspection, the total disease count must not exceed 6 per cent. Fields not reaching this standard are immediately rejected. Growers of fields which are within the standard, are informed of the presence of disease, and are advised to remove and destroy any diseased plants immediately.

The standard required in the second inspection is very high:

Black Leg	not	more	than	1	per	cent
Leaf Roll, Curly Dwarf	"	"	"	1	"	"
Mosaic	"	"	"	1	"	"
Spindle Tuber	"	"	"	1	"	"
Wilts	"	"	"	2	"	"
Foreign	"	"	"	½	"	"
With a total allowance of	"	"	"	3	"	"

The crop only from fields which pass two (or more) field inspections are eligible for tuber inspection, which takes place at digging time or as soon after as possible. Growers are advised to grade out all diseased and damaged tubers. A second tuber inspection is made at the time of shipping, when the standard required is as follows:

TUBER

Tags to be issued by inspector only on the express understanding that tubers must contain no more of the diseases, etc., than provided under the following standard when shipped:

	Per cent
Wet Rot (Bacterial)	½
Late Blight and Dry Rot	1
Scabs or Rhizoctonia—	
Slight	10
Severe	5
Necrosis, Wilts, and Internal discolorations, other than due to variety	5

Providing that in no case (unless otherwise provided) shall a total of more than 7 per cent be allowed except in the case of slight scab or Rhizoctonia.

Not more than 1 per cent of powdery scab allowed under scabs.

Not more than 2 per cent of the tubers to be malformed, or spindly, or badly damaged by sunburn, cuts, cracks, bruises, insects, etc.

No frost injury or foreign tubers shall be allowed.

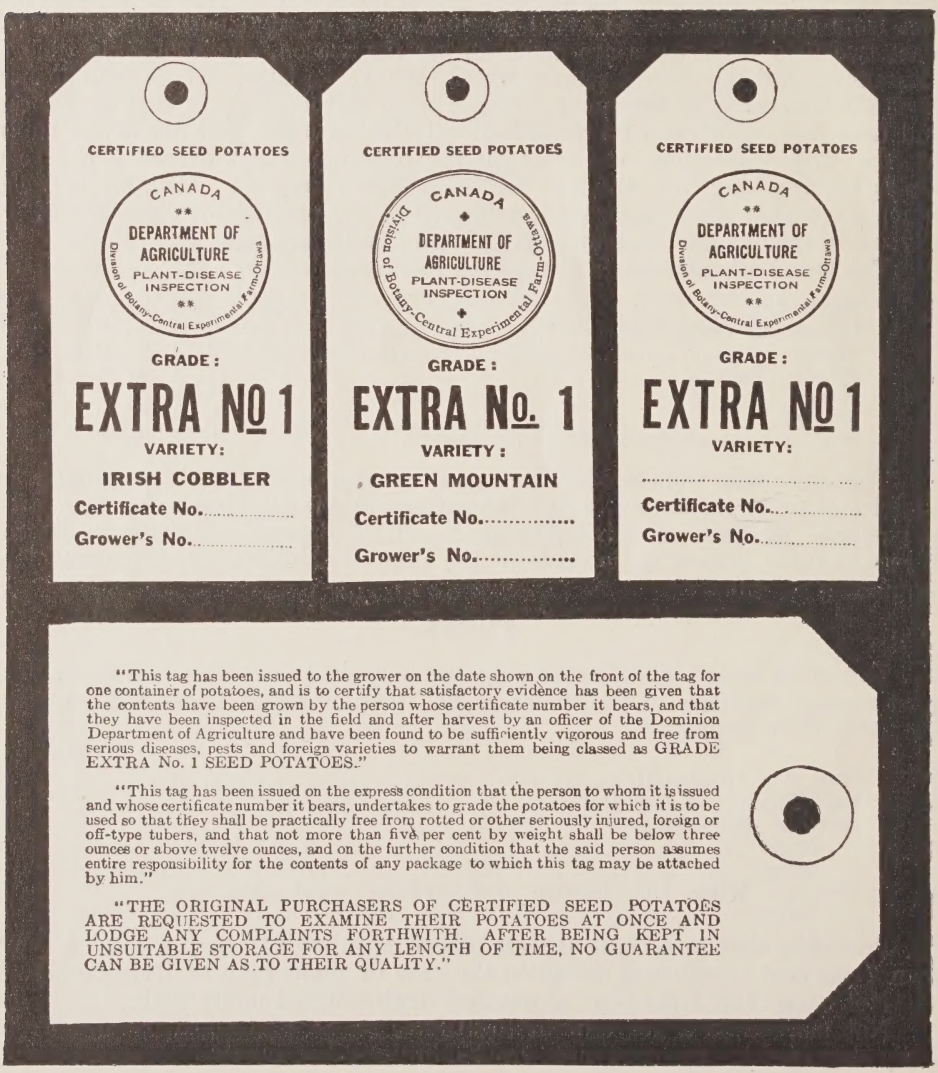
Not more than 5 per cent by weight of the tubers shall be below 3 ounces or above 12 ounces in the Extra No. 1 Grade. Not more than 3 per cent by weight of the tubers shall be below 1½ ounces or above 3 ounces in the Certified small size seed grade.

At fall bin-inspection, if more than 3 per cent late blight be found in bin, grower will not be allowed to grade for fall shipment but may hold for spring shipment, subject to re-inspection.

Growers should allow at least ten days in storage before attempting to grade for shipment.

Seed stocks improperly stored, as indicated by excessive sprouting or shrivelling, will be refused certification.

If the potatoes reach this standard, official certified seed tags are issued to the growers. One of these tags must be attached to each container, and only potatoes in containers so labelled are Canadian Government certified seed



potatoes. No other type of label carries any official recognition of seed potatoes whatsoever, and growers are warned that if they buy potatoes in containers that do not bear the Canadian certified seed potato tag, they are *not* buying Canadian certified seed. The tags show the certificate number of the field from which the potatoes were taken, and upon application to the Dominion Botanist, Central Experimental Farm, Ottawa, a copy of the field readings will gladly be sent to the purchaser.

The illustration on page 8 shows the types of tag issued. The tags are coloured yellow for the Irish Cobbler variety, green for the Green Mountain variety, and buff, manila tags are issued for all other varieties.

In addition to the three types shown, there is now issued a fourth type for small sized seed. This tag is blue, and bears the words "Certified Seed Potatoes—Grade, 'Small Sized' 1½-3 ounces only."

THE VALUE OF CERTIFIED SEED

The average Canadian potato production for the past ten years was approximately 89,580,000 bushels (60 pounds per bushel) per annum, valued at $67,727,600. The average yield was about 148 bushels per acre. Most certified seed growers obtain over 300 bushels per acre, and many of the best farmers have produced 400 to 500 bushels per acre. When it is borne in mind that the yield of marketable potatoes per acre and the price per bushel determines the profit in growing potatoes, it is not at all surprising that the demand for certified seed has increased every year since the service was started.

The rapid development of seed inspection and certification is shown by the fact that in Canada some of the largest and best seed-potato producing districts in the world are to be found. The total acreage inspected in 1930 was 34,000 acres as against 7,900 acres in 1921, an increase of 330 per cent.

In 1929 approximately four million bushels of certified potatoes were produced. This quantity was sufficient to supply the demands of Canadian growers and to allow for the export to foreign countries of over 1¼ million bushels, enabling growers in foreign countries to enjoy the benefit of this high class supply of seed potatoes. Markets in the United States, Cuba, Jamaica, and Bermuda have been established, and interest in Canadian seed is now being shown in South Africa, in Mexico, and in several countries in South America. The Canadian certified seed potato industry is flourishing, and its future is bright and full of promise.

Field of potatoes planted with certified seed.

Field of potatoes planted with uncertified seed.

Compare the above two fields. Both were planted on the same day, in the same district, under similar soil conditions, and were photographed on the same day.

Prospective buyers of Canadian apples and certified seed potatoes should get in touch with E. L. McColl, The Canadian Government Trade Commissioner, B. Mitre 430 Buenos Aires, Argentine.

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